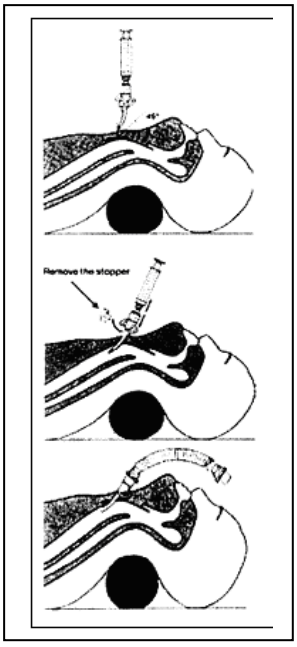
Surgical Airway Guideline

A surgical airway is a standing-order, medic-level procedure designed for the viable patient whose airway cannot be successfully managed with the available non-invasive (BVM) or invasive airway devices/procedures, which include the supraglottic devices (LMA, King, Combitube) and endotracheal intubation. Both the QuickTrach and surgical cricothyrotomy are included in this guideline. Providers performing one of these skills must be released at their designated skill levels and be approved by the medical director.

A. QuickTrach – a fast, safe alternative to a cricothyrotomy when an emergent airway is needed. The size of the airway device is equivalent to a 4.0 ET tube.

Level of Care: EMT-Intermediate or EMT-Paramedic



Indications:

1. Massive facial trauma
2. Foreign body aspiration
3. Laryngoedema
4. Laryngospasms
5. Airway burns
6. Laryngeal fracture
7. Epiglottitis

Contraindications:

1. Any situation where a BLS airway can provide adequate oxygenation/ventilation

Complications:

1. Severe bleeding
2. Vocal cord injury
3. Failure to place catheter in trachea

Procedure:

1. Place patient in a supine position and hyperextend the neck using stable positioning. Consider keeping the trauma patient's head in a neutral position.
2. Secure the larynx laterally between thumb and forefinger. Identify the cricothyroid membrane puncture site which is bounded superiorly by the thyroid cartilage and inferiorly by the cricoid cartilage.
3. Cleanse area properly with betadine swab
4. Firmly hold and introduce the device at a 90° angle into the trachea.
5. Correct placement in the trachea should be determined by aspirating air into the syringe. If the neck is extremely thick, remove the stopper and re-introduce the device further until air can be aspirated.
6. Change to 60°caudally and advance the device to the level of the stopper.
7. Remove the stopper and advance plastic catheter off the needle until the flange is resting on the patient's neck. Remove needle and syringe, confirm successful airway placement:
    a. Observe chest wall rise on ventilation
    b. Auscultate for bilateral breath sounds
    c. $ETCO_2$ waveform / SpO_2 monitoring are both required to determine and maintain correct tracheal tube placement
8. Secure the device with the provided neck strap.

B. Surgical Cricothyrotomy

Level of Care: EMT-Paramedic

Indications:

1. Massive facial trauma
2. Foreign body aspiration
3. Laryngoedema
4. Laryngospasms
5. Airway burns
6. Laryngeal fracture
7. Epiglottitis

Complications:

1. Severe bleeding
2. Vocal cord injury
3. Failure to place catheter in trachea

Procedure:

1. Place patient in a supine position and hyperextend the neck using stable positioning. Consider keeping the trauma patient's head in a neutral position.
2. Secure the larynx laterally between thumb and forefinger. Identify the cricothyroid membrane puncture site which is bounded superiorly by the thyroid cartilage and inferiorly by the cricoid cartilage.
3. Cleanse the area properly with betadine swab
4. With scalpel, make a 1.0 cm shallow, vertical incision over the skin. Have fingers on either side providing mild to moderate spreading pressure to open the incision for better visualization of the cricothyroid membrane. Have 4x4's available for bleeding control.
5. If landmarks are obscured by marked obesity or subcutaneous air, make a 2.0 cm vertical incision through the skin, and dissect bluntly down to identify the cricothyroid membrane.
6. Once the membrane has been located, make a 1.0 cm horizontal puncture.
7. Enlarge the incision with the handle of the scalpel or other appropriate surgical instrument. NEVER enlarge the incision with the scalpel blade. A bougie can be used to determine whether the incision was made all the way through the anterior wall of the trachea. While moving the bougie, proper positioning should be indicated by feeling a "washboard" feeling as the bougie tip rubs against the tracheal rings.
8. Insert the appropriate size tracheostomy tube (in the absence of a tracheostomy tube, an endotracheal tube may be used). Insert the tube only until the cuff enters the trachea, then inflate the cuff. Remove the obturator, ventilate and confirm successful airway placement:
    a. Observe chest wall rise on ventilation
    b. Auscultate for bilateral breath sounds
    c. $ETCO_2$ waveform / SpO_2 monitoring are both required to determine and maintain correct tracheal tube placement
9. Secure the tube with twill tape.